

REMARKS

These remarks are filed in response to a final office action mailed on November 1, 2006. Claims 1-18 are pending and claims 7-18 are withdrawn. Claims 1-6 are rejected.

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being obvious in view of United States Patent No. 5,625,095 (*Miura*). Applicants respectfully traverse the rejection. Applicants acknowledge the Examiner's assertion, "it would have been obvious to the skilled artisan in the art to be motivated to monitor the density of the various components of the overhead in order to maximize the efficiency of the process since the density is directly proportional to the concentration." However, nothing in *Miura* suggests using density or calculated concentration values to control its process, nor has the Examiner presented any other references to support using density measurements to control the separation of acetaldehyde from methyl iodide by distillation.

Also, *Miura* does not identify the problem solved by the claimed invention. *Miura* does not indicate that any process control system improvements are needed. *Miura* does not describe a control system for its process, nor does it provide any suggestion that information about the composition of streams from its distillation column or extractor is used to control the operation or feed conditions of its distillation column or extractor. Furthermore, *Miura* does not mention density as a process parameter to be measured for any purpose. In fact, *Miura* describes a one-time, sophisticated, time-consuming component concentration measurement step that provides information about several components including impurities (see column 12, lines 20 to 44 and Table 1) that is not used to control any aspect of *Miura*'s process.

Instead, *Miura* provides a process recipe for separating acetaldehyde from methyl iodide. *Miura* describes the desirability of less than 400 ppm acetaldehyde in its reactor and suggests that the concentration is best maintained by removing acetaldehyde from the process streams circulated to the reactor by performing distillation or distillation followed by extraction. *Miura* demonstrates the removal of acetaldehyde by distillation by providing concentrations of various components before and after distillation (column 12, lines 20-44). *Miura* then discloses how a subsequent extraction of the distillate followed by a second distillation can further remove acetaldehyde from process streams that are recycled to the reactor (column 12, line 55 to column 13, line 34). *Miura* discloses

concentrations of components before and after extraction to illustrate the extraction's effectiveness, not to control part of its process.

In conclusion, *Miura* does not teach, show, or suggest measuring the density of the overhead and adjusting at least one process variable associated with the distillation apparatus in response to the measured density or a relative concentration calculated therefrom as recited in claim 1. Also, *Miura* does not teach, show, or suggest measuring the density of at least one of the overhead, the extract and the raffinate, and adjusting at least one process variable associated with the distillation apparatus or the extraction step in response to said measured density or a relative concentration calculated therefrom as recited in claim 2 and claims 3-6 dependent thereon. Withdrawal of the rejection is respectfully requested.

As a result of the remarks above, Applicants respectfully submit that this case is in condition for allowance.

Respectfully submitted,



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